

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

<sup>1</sup>  
~~169~~. (Currently Amended) An isolated nucleic acid consisting essentially of a nucleic acid encoding a human MCH1 melanin concentrating hormone 1 (MCH1) receptor ~~or a mutant of such receptor~~, wherein the human MCH1 receptor comprises consecutive amino acids the sequence of which is identical to the sequence of the human MCH1 receptor encoded by the consecutive nucleotides having a sequence beginning with the start codon at positions 1-3, or the start codon at positions 16-18, and ending at the stop codon at positions 1267-1269 as indicated in Figure 1 (SEQ ID NO: 1) and which is activated by MCH melanin-concentrating hormone ~~or an analog or homolog thereof~~.

<sup>2</sup>  
~~170~~. (Previously Presented) The isolated nucleic acid of claim ~~169~~, wherein the nucleic acid is DNA.

<sup>3</sup>  
~~171~~. (Previously Presented) The DNA of claim ~~170~~<sup>2</sup>, wherein the DNA is cDNA.

<sup>4</sup>  
~~172~~. (Previously Presented) The isolated nucleic acid of claim ~~169~~<sup>1</sup>, wherein the nucleic acid is RNA.

<sup>5</sup>  
~~173~~. (Previously Presented) The isolated nucleic acid of claim ~~169~~<sup>1</sup>, wherein the human MCH1 receptor has an amino acid

sequence identical to that encoded by the plasmid pEXJ.HR-TL231 (ATCC Accession No. 203197).

<sup>6</sup>  
174. (Currently Amended) The isolated nucleic acid of claim ~~169~~<sup>1</sup>, wherein the ~~mutant~~ human MCH1 receptor comprises the amino acid sequence set forth in SEQ ID NO: 27.

175. (Cancelled)

<sup>7</sup>  
176. (Previously Presented) A vector comprising the nucleic acid of claim ~~169~~<sup>1</sup>.

<sup>8</sup>  
177. (Previously Presented) The vector of claim ~~176~~<sup>7</sup> adapted for expression in a cell which comprises the regulatory elements necessary for expression of the nucleic acid in the cell operatively linked to the nucleic acid encoding the receptor so as to permit expression thereof, wherein the cell is a bacterial, amphibian, yeast, insect or mammalian cell.

<sup>9</sup>  
178. (Previously Presented) The vector of claim ~~177~~<sup>8</sup>, wherein the vector is a baculovirus.

<sup>18</sup>  
179. (Previously Presented) The vector of claim ~~176~~<sup>7</sup>, wherein the vector is a plasmid.

<sup>19</sup>  
180. (Previously Presented) The plasmid of claim ~~179~~<sup>18</sup> designated pEXJ.HR-TL231 (ATCC Accession No. 203197).

<sup>10</sup>  
181. (Previously Presented) A cell comprising the vector of claim ~~177~~<sup>8</sup>.

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Filed: June 20, 2001  
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<sup>11</sup>  
~~182.~~ (Previously Presented) The cell of claim ~~181~~<sup>10</sup>, wherein the cell is a non-mammalian cell.

<sup>12</sup>  
~~183.~~ (Previously Presented) The cell of claim ~~182~~<sup>11</sup>, wherein the non-mammalian cell is a Xenopus oocyte cell or a Xenopus melanophore cell.

<sup>13</sup>  
~~184.~~ (Currently Amended) The cell of claim ~~182~~<sup>10</sup> ~~181~~<sup>10</sup>, wherein the cell is a mammalian cell.

<sup>14</sup>  
~~185.~~ (Previously Presented) The mammalian cell of claim ~~184~~<sup>13</sup>, wherein the cell is a COS-7 cell, a 293 human embryonic kidney cell, a NIH-3T3 cell, a LM(tk-) cell, a mouse Y1 cell, or a CHO cell.

<sup>16</sup>  
~~186.~~ (Previously Presented) An insect cell comprising the vector of claim ~~187~~<sup>8</sup>.

<sup>17</sup>  
~~187.~~ (Previously Presented) The insect cell of claim ~~186~~<sup>16</sup>, wherein the insect cell is an Sf9 cell, an Sf21 cell or a Trichoplusia ni 5B1-4 cell.

<sup>15</sup>  
~~188.~~ (Previously Presented) A membrane preparation isolated from the cell of claim ~~181~~<sup>10</sup>.

*wherein said cell is a non-human cell*